Claims

1. A method for identifying a compound that has the ability of modulating sister chromatid separation by inhibiting the proteolytic activity of separase, characterized in that an active separase in the form of

   a) one or more separase fragment(s), optionally upon activation in the presence of securin, or

   b) the full-length separase upon activation in the presence of securin,

   is incubated in the presence of a separase substrate, with a test compound and that the modulating effect of the test compound on the proteolytic activity of the active separase is determined.

2. The method of claim 1, wherein the active separase is human.

3. The method of claim 1 or 2, wherein the active separase (fragment) is activated in a mitotic cell extract in the presence of securin.

4. The method of claim 3, wherein the mitotic cell extract has been obtained from Xenopus laevis eggs.

5. The method of claim, wherein the separase substrate is peptide that carries a fluorogenic group, which upon processing of the peptide results in a change in fluorescence and that the change in fluorescence is correlated with the separase activity.

6. The method of claim 5, wherein the separase substrate is a peptide selected from peptides containing the sequence DREIMR, SFEILR or EWELLR.

7. A peptide selected from peptides containing the sequence DREIMR, SFEILR or EWELLR or a derivate thereof.

8. The peptide of claim 7 or a derivate thereof for the treatment of cancer.

9. Pharmaceutical composition containing, as the active ingredient, the peptide(derivative) of claim 7.

10. An inhibitor of separase which has been identified in the method of claim 1 for human therapy.